

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant(s): Litwinski et al.
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Art Unit: 3677
Examiner: F. Saether
Title: RIVETS HAVING HIGH STRENGTH AND FORMABILITY

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REPLY BRIEF UNDER 37 CFR § 1.193

Appellant, within a two (2) month period from the April 6, 2007 mailing date of the Examiner's Answer, herein files a Reply Brief in accordance with the provisions of 37 CFR §1.193(b).

The following remarks are not an exhaustive review of the arguments previously made in the Appeal Brief but, rather, respond to each of the particular comments set forth in the Examiner's Answer.

First, regarding the use of the term "consisting essentially of" in the claims, the Examiner's Answer takes the position that this term is equivalent to "comprising." *See* Examiner's Answer, page 3 ("As discussed further below, 'consist essentially of' is to be construed as equivalent to 'comprising'. See, e.g., *PPG*, 156 F.3d at 1355, 48 USPQ2d at 1355.") The Examiner's answer also points to MPEP 2111.03 and *PPG Industries*, 156 F.3d 1351 in this regard. *See* Examiner's Answer, page 7.

Neither MPEP 2111.03 nor *PPG Industries*, 156 F.3d 1351, support this contention. MPEP 2111.03 quotes *PPG Industries* for the proposition that "consisting essentially of" is to be construed as "comprising" only if there is no clear indication in the specification or claims of what the basic and novel characteristics actually are. Indeed, in *PPG Industries*, the patent owner (PPG) argued that a claim directed to glass having a base composition "consisting essentially of" certain substances was infringed by a product that also contained a substance not

specified in the claim. As described in the Appeal Brief, the Federal Circuit in *PPG* specifically rejected the claim construction proposed by PPG because the construction “would have the effect of converting the critical claim language from ‘consisting essentially of’ to ‘comprising.’” *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355. Accordingly, *PPG* actually requires weight to be given to the term “consisting essentially of” as set forth in the Appeal Brief.

In addition, Appellant has already explained that the JP '567 does include materials that affect the basic and novel characteristics described in the present application, i.e., the characteristics resulting from the claimed refined grain structure such as resistance to the formation and propagation of cracks and improved formability to resist necking, cracking, or tearing during manufacture and installation of the rivets. *See* Appeal Brief, page 8.

The Examiner has stated that Appellant cannot show that the additional materials of JP '567 would affect the basic and novel characteristics of the invention by referring to the advantageous properties achieved by the claimed invention in the description in the specification; however, as previously explained by Appellant, such evidence is sufficient per *In re Lajarte*. *See* Appeal Brief, pages 8-10. The Examiner disagrees with Appellant's reliance on *In re Lajarte*, ostensibly “because the facts of *In re Lajarte*, which deals with an electrical insulator are different than the facts of the instant case which deals with a rivet.” Examiner's Answer, page 6. Appellant presumes that this statement is not meant to imply that the legal precedent of *In re Lajarte* cannot be extended to the facts of the present case merely because of the difference in technologies. Nevertheless, the only distinction noted by the Examiner between the present application and the facts of *In re Lajarte* is the allegation that:

[I]n the case of *In re Lajarte* it was recognized by the court that applicant has shown “his glass has basi[c] and novel properties” [emphasis added]. However, and to the contrary, in the instant application there has simply been no showing of novelty. Nowhere does appellant show that the grain structure claimed has basic and novel properties not also present in JP '567. The fact that the claimed grain structure has certain characteristics as discussed in the specification does not mean they are novel. There is no evidence that the grain structure in JP '567 does not also have the same characteristics. Thus, while the claimed grain structure of the instant invention can be said to have certain characteristics, it cannot be said that they are novel. It remains appellant's burden to show that the inclusion of the additional material in JP '567 it would not have the same characteristics as appellant's.”

Examiner's Answer, page 6.

Appellant again refers to the Federal Circuit's discussion of the burden on appellant and the evidence required for showing basic and novel characteristics. In particular, the court stated in *In re Lajarte*:

Thus, here appellant has the burden of showing the basic or novel characteristics of his insulting glass. He has met this burden by pointing out in his specification and claims the great increase in resistance to perforation resulting from his composition.

The Board of Appeals and the solicitor contend that appellant had furnished no evidence that a critical difference in appellant's emphasized characteristics would result from the introduction of small amounts of [the materials used in the cited prior art reference]." It is not clear what evidence they would require. The solicitor has noted that an affidavit which the board did not consider contains nothing significant on this issue. It may be implied that the Patent Office would require appellant to duplicate the Lyle glass and compare its resistance to perforation with that of appellant's glass.

In the total absence of evidence in the record to indicate that the amber glass disclosed by Lyle would be expected to have desirable electrical insulating properties, we can find no justification for placing the burden on applicant to conduct experiments to determine the insulating properties of the colored glass disclosed by Lyle. Although there are only slight differences between the Lyle composition and that sought to be patented, we cannot assume that these small differences are incapable of causing a difference in properties. Appellant, in showing that his glass has basic and novel properties (at least as far as the record is concerned), would appear to have met his burden.

In re Larjarte, at 830.

Appellant has asserted during prosecution that the claimed invention does indeed provide basic and novel characteristics and has referred to the specification for the identification of those characteristics that result from the claimed grain structure, such as resistance to the formation and propagation of cracks and improved formability to resist necking, cracking, or tearing during manufacture and installation of the rivets. This showing is similar to the showing made for the analogous characteristics in *In re Lajarte* (increase in resistance to perforation) and in *PPG Industries* (color, composition, and light transmittance). Thus, Appellant has shown, at least as far as the record is concerned, that the present invention has basic and novel properties. Nevertheless, the Examiner has indicated that a sufficient showing would require more than a statement on the record or even an affidavit by the inventors, such as either test data of the material described by JP '567 or a test by a third-party indicating the properties of the material described by JP '567. Appellant asserts that such a showing, as a matter of law, is not required.

Indeed, as noted above, the Federal Circuit contemplated that such evidence may have been required by implication by the Patent Office in *In re Lajarte* and specifically declined to place the burden on the applicant for providing that type of evidence.

For the foregoing reasons, Appellant again submits that the term “consisting essentially of” in the claims cannot be construed to merely mean “comprising.”

Next, Appellant traverses the Examiner’s characterization of the effect of the transitional phrase “comprising” on the subsequent recitation using the term “consisting essentially of.” In this regard, the Examiner’s Answer states that “the preamble uses ‘comprising’ thus not limiting the rivet to the claimed 3 to 5 micrometers.” Examiner’s Answer, page 3. For support, the Examiner’s Answer refers to the MPEP and caselaw that purports to provide that “where ‘comprising at least a portion’ was then further limited by ‘wherein said portion consists of’ the court stated that use of ‘consists’ in the body of the claim did not limit the ‘comprising’ language.” Examiner’s Answer, page 8. This proposition noted in the MPEP is not at issue, and the support relied upon in the Examiner’s Answer is inapposite to the present inquiry. Appellant has not alleged that the use of the “consists essentially of” phrase in the body of the claim limits the open transitional term (“comprising”). Rather, Appellant has asserted that the use of the open transitional term (“comprising”) does not eliminate the partially closed terminology (“consists essentially of”) in the body of the claim. These are two entirely different concepts. As explained in greater detail in the Appeal Brief (page 12), Claim 38 is directed to a rivet “comprising” a shank having a head, and this open language does not preclude additional components of the rivet; however, the claim further states that the shank and head “consist essentially of a grain structure having a grain size between about 3 microns and 5 microns” and this language is partially closed, as noted above. Thus, while the claim could literally read on a structure having elements in addition to the shank and head, the claim could not literally read on such a structure if the shank and head do not meet the additional limitation, i.e., consisting essentially of a grain structure having a grain size between about 3 microns and 5 microns. The Examiner’s Answer does not provide any legal basis for eliminating the implication of the “consisting essentially of” language due to the use of an open transitional term.

Next, Appellant traverses the characterization of the prior art set forth in the Examiner's Answer. In particular, the Examiner's Answer states that "the examiner does not dispute that JP '567 discloses a grain size[] outside of the claimed range but, it nonetheless discloses the grain size of the resulting matrix inclusive of the claimed range 'the mean grain size of the matrix not being more than 5 μ m' (Translation paragraph [0005])." Examiner's Answer, page 5. In this regard, the Examiner's Answer seems to imply that a matrix having a mean grain size not more than 5 microns necessarily includes grains that are in the range of about 3 microns and 5 microns. This is not true, since a matrix having grain sizes smaller and larger than the recited range could have a mean grain size that is not greater than 5 microns, even though none of the grains are in the range of about 3 microns and 5 microns. For example, a matrix having grain sizes of 0.1 micron, 1 micron, and 10 microns could have a mean grain size that is not greater than 5 microns, even though none of the grains are in the range of about 3 microns and 5 microns. Although JP '567 does not describe the size of all of the grains (and does not state that any grains are, e.g., as large as 10 microns), at least some of the grains are well below the claimed range, as noted below. In any case, even though there may be "some overlap" of the mean grain size of JP '567 and the claimed range of the present invention, this alone does not mean that any grains are within the claimed range.

Appellant also disagrees with the characterization made in the Examiner's Answer regarding the sizes of the grains and Appellant's prior statements. In particular, the Examiner's Answer states:

Appellant next argues the rejection, second, because the grain size disclosed in JP '567 cannot be considered as being "about" within the claimed range since they are only 1/3 to 1/30 of the limit of the range.

Examiner's Answer, page 7.

Appellant has not characterized any particles of JP '567 as being "only 1/3 to 1/30 of the limit of the range." Rather, Appellant has previously and thoroughly explained that JP '567 states that (a) the mean grain sizes of the dispersed aluminum oxide particles and aluminum carbide particles are together not more than 100 nm (i.e., 0.1 micron), and (b) the mean grain size of the boride particles are not more than 1 μ m. Thus, even at the largest values disclosed by JP

'567, the mean grain size of the boride particles is no more than 1/3 of the size of the smallest value in the claimed range, and the mean grain size of the aluminum oxide and aluminum carbide particles is no more than 1/30 of the size of the smallest value in the claimed range.

After mischaracterizing Applicant's statements, the Examiner's Answer proceeds to take the position that "1 μm is considered as 'about' at the low end of the range of 3 μm ." The Examiner's Answer does not even address the fact that the aluminum carbide particles have a mean grain size that is, at most, 100 nm (i.e., 0.1 micron, or 1/30 of the lower end of the recited range).

Further, the Examiner's Answer states that "since JP '567 discloses the overall matrix to be up to 5 μm there must be grains larger than 1 μm otherwise, the 5 μm would be impossible." Examiner's Answer, page 7. Appellant notes again that JP '567 states that the mean grain sizes of the dispersed aluminum oxide particles and aluminum carbide particles are together not more than 100 nm, and the mean grain size of the boride particles are not more than 1 μm . If some of the grain sizes of the boride particles are greater than 3 μm (to be in the recited range), then others must be significantly less than 3 μm in order for the average to be less than 1 μm . Similarly, if some of the grain sizes of the dispersed aluminum oxide particles and aluminum carbide particles are greater than 3 μm , then there must be significant numbers and/or sizes less than 3 μm in order for the average to be less than 100 nm. Thus, while it is possible that some of the particles are in the claimed range, the stated averages would then require that other grain sizes are reduced further from the claimed range.

Further, by the same logic set forth in the Examiner's Answer, it would appear that other particles of the material of JP '567 would be required to have significantly larger grain sizes, e.g., above the claimed range, to offset the affect on the average of all of the particles that are significantly less than the range.

Finally, regarding Claims 44-46, which stand rejected under § 103(a) as being unpatentable over JP '567 in view of Briles, the Appeal Brief explains that the shank and the head consist essentially of a particular material with grain sizes within the recited range. Further, the Appeal Brief notes that the final Office Action does not provide any teaching of the recited materials with grains sizes in the recited range or identify any motivation for modifying the

materials of the cited references to achieve the claimed invention. For example, even if the some of the particles of JP '567 were described to have grain sizes in the recited range, the Office Action has not provided any motivation for providing similarly sized grains in a completely different material, such as the materials disclosed by Briles. The Examiner's Answer also fails to provide any motivation for such a modification and Appellant's traversal on this basis is apparently unchallenged.

Pursuant to the foregoing, as well as to the arguments contained in Appellant's Appeal Brief dated August 11, 2006, Appellant respectfully requests that all of the Examiner's rejections be reversed, and that the application be passed to issue at the earliest opportunity.

Appellant does not wish to participate in an Oral Hearing. The Appellant respectfully requests that the Board act of the papers submitted in making its determination.

Respectfully submitted,



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